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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,877	10/25/2001	Vijay Rajaram Harchekar	4752-105 US	7895

7590

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EXAMINER
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WYSZOMIERSKI, GEORGE P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/051,877

Applicant(s)

HARCHEKAR ET AL.

Examiner

George P Wyszomierski

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 7-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date: 2004102520020703
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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1. Applicant's election with traverse of Group I, claims 1-6 in the paper filed March 25, 2004 is acknowledged. The traversal is on the ground(s) that a search for the non-elected invention would uncover products of the elected invention. This is not found persuasive because even if some such products would be found by such a search, a complete search for the elected products would entail searching other classes or subclasses than those required to search for the non-elected invention.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 2 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 2 states that the claimed products have a martensitic transformation temperature "lowered" by a certain amount, but do not set forth what the lowered value is to be compared to, i.e. what would constitute a higher, baseline temperature?

b) The metes and bounds of claim 5 cannot be determined. It is unclear what particular acts would or would not constitute making a "processed" alloy. Further, it is unclear what devices or applications would fall within the claimed category of "some other temperature device or application".

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 3-6 are rejected under 35 U.S.C. 102(b) as being anticipated by any of Tabei et al. (U.S. Patent 4,472,213), Tautzenberger et al. (U.S. Patent 4,554,027), Tabei (U.S. Patent 4,750,953), or the White et al. Journal de Physique article.

All of the above references disclose shape memory alloys containing amounts of copper and zinc as presently claimed together with 6% aluminum. See Tabei et al. Table 1, samples 6 and 10, Tautzenberger et al., example 1, alloy C, Tabei Table 1, samples 3, 5, 11 and 13, or White et al., Table 1, alloy C-2. The first column of each of the cited patents as well as the first page of White indicate that these alloys are useful for some application as defined in instant claim 5. With regard to various properties presently claimed, the examiner's position is that the martensitic transformation temperature of the prior art alloys is "low", and that their shape memory at 575°C, their fatigue properties, and shape memory response properties are "good", absent any numerical definition of these terms. Thus, all aspects of the claimed invention are held to be fully met by the disclosures of Tabei et al., Tautzenberger et al., Tabei, or White et al.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claim 2 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over any of Tabei et al., Tautzenberger et al, Tabei, or White et al.

The prior art does not specify that the martensitic transformation temperatures of the prior art materials are lowered by about 80°C, as required by the instant claim. The examiner's position is that the prior art materials possess a transformation temperature lower by 80°C than some other material, and therefore these materials fall completely within the metes and bounds of the instant claim.

Alternatively, the examiner's position is that one of ordinary skill in the art would select a particular material from among those disclosed in the prior art which has a transformation temperature suitable for the purpose intended by the artisan. Because these purposes appear to be the same or similar in either the prior art or the claimed invention, at a minimum a prima facie case of obviousness is established between the disclosures of Tabei et al., Tautzenberger et al, Tabei, or White et al. and the presently claimed invention.

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brook et al. (U.S patent 4,036,669) or Melton et al. (U.S. patent 4,398,969).

The prior art discloses shape memory alloys containing copper and zinc in amounts as presently claimed. The prior art alloys further contain aluminum. With regard to the properties as presently claimed, the equivalent properties of the prior art materials are held to be "low" or "good" in the absence of any specific definition of these terms.

The prior art does not disclose any specific examples of alloys containing 6% aluminum. However, at least one alloy in each of Brook and Melton closely approximates this percentage of aluminum; see Brook example 3, first composition, or Melton example 1. Further, the prior art

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indicates that the amount of aluminum can be varied from that of the specific examples to a range which includes 6%; see Brook claim 16 or Melton claim 4. Therefore, it is held that the alloys having close approximations in Brook et al. or Melton et al. to the claimed compositions create a prima facie case of obviousness of the presently claimed invention. Compare *Titanium Metals v. Banner* (227 USPQ 773).

8. The remainder of the art cited on the enclosed PTO-892 and 1449 forms is of interest. This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, supra.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. Effective October 1, 2003, all patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER

GPW  
April 1, 2004